

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: HALO COMMERCIAL

Report Number: P580740

Luminaire Tested: **HC445D010-HM44560835-41WWWB**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580740  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-18)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC445D010-HM44560835-41WWWB  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4497.3 lumens  
Efficiency: N/A  
Efficacy: 102.2 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.07 / 1.15  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

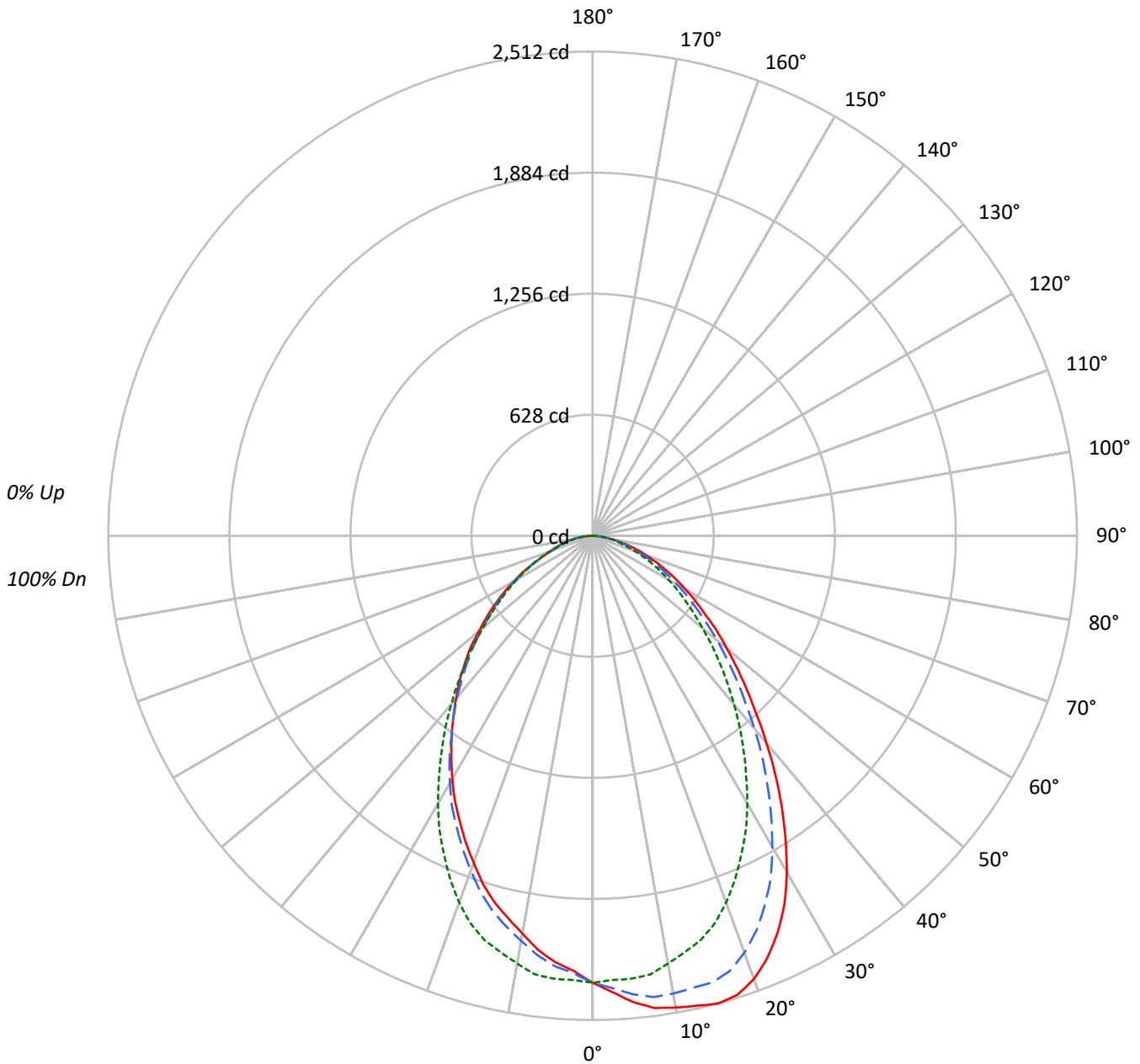
Input Watts (W): 44  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20					20					20					20					20					
RC	80					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0					
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100								
1	110	106	103	99	108	104	101	98	100	97	95	96	94	92	92	91	89	87								
2	102	95	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77	75								
3	94	85	77	72	92	83	76	71	80	75	70	78	73	69	75	71	68	66								
4	87	76	68	62	85	75	68	62	72	66	61	70	65	60	68	63	60	58								
5	81	69	61	55	79	68	60	55	66	59	54	64	58	53	62	57	53	51								
6	75	63	55	49	73	62	54	49	60	53	48	59	53	48	57	52	47	46								
7	70	58	50	44	68	57	49	44	55	48	43	54	48	43	53	47	43	41								
8	65	53	45	40	64	52	45	40	51	44	39	50	44	39	49	43	39	37								
9	61	49	41	36	60	48	41	36	47	41	36	46	40	36	45	40	36	34								
10	58	45	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	31								

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	286026	286026	286026
5°	300763	285658	274972
10°	311330	282247	262496
15°	320838	277128	251282
20°	321197	265713	236796
25°	309130	248350	222028
30°	287034	228539	207331
35°	257291	205749	191850
40°	225777	183591	177359
45°	197323	162540	163587
50°	174219	142230	147373
55°	153651	126125	132512
60°	137308	111628	116019
65°	121618	98182	98182
70°	106280	83704	83704
75°	90787	70961	79444
80°	71884	63432	71884
85°	46420	54769	67507



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	219.7	4.9
10°-20°	618.7	13.8
20°-30°	866.8	19.3
30°-40°	893.1	19.9
40°-50°	760.3	16.9
50°-60°	563.4	12.5
60°-70°	353.5	7.9
70°-80°	175.6	3.9
80°-90°	46.1	1.0
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1705.3	37.9
0°-40°	2598.4	57.8
0°-60°	3922.0	87.2
0°-90°	4497.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4497.3	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2319	2319	2319	2319	2319	
5°	2429	2388	2307	2242	2221	234
15°	2512	2399	2170	2012	1968	706
25°	2271	2114	1825	1667	1631	1039
35°	1709	1581	1366	1277	1274	1065
45°	1131	1054	932	914	938	878
55°	714	658	586	598	616	646
65°	417	375	336	330	336	416
75°	190	170	149	161	167	204
85°	33	33	39	45	48	42
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	2318.9	2318.9	2318.9	2318.9	2318.9	2318.9	2318.9	2318.9	2318.9
2.5°	2369.6	2360.7	2348.8	2327.9	2307.1	2289.2	2271.4	2262.4	2259.5
5°	2429.1	2411.3	2387.5	2348.8	2307.1	2271.4	2241.6	2226.7	2220.8
7.5°	2470.9	2452.9	2414.2	2354.7	2295.2	2241.6	2194.0	2173.1	2167.1
10°	2485.7	2464.9	2411.3	2331.0	2253.5	2188.0	2134.4	2107.7	2095.8
12.5°	2497.6	2470.9	2402.3	2307.1	2211.8	2131.5	2074.9	2039.1	2030.3
15°	2512.5	2482.8	2399.4	2283.3	2170.2	2074.9	2012.4	1979.7	1967.8
17.5°	2497.6	2464.9	2366.6	2235.7	2107.7	2003.4	1935.0	1905.2	1893.3
20°	2447.0	2411.3	2301.1	2161.2	2024.3	1917.2	1848.6	1818.9	1804.0
22.5°	2369.6	2331.0	2217.7	2069.0	1929.1	1824.8	1759.3	1729.6	1720.7
25°	2271.4	2232.7	2113.6	1961.8	1824.8	1723.6	1667.1	1640.3	1631.4
27.5°	2155.2	2116.5	2000.5	1851.6	1720.7	1625.3	1580.7	1554.0	1548.0
30°	2015.3	1976.6	1863.5	1726.6	1604.6	1515.3	1479.5	1458.7	1455.7
32.5°	1860.6	1827.9	1723.6	1598.6	1482.5	1408.1	1381.3	1366.4	1363.5
35°	1708.7	1673.0	1580.7	1467.6	1366.4	1300.8	1277.1	1274.1	1274.1
37.5°	1554.0	1518.2	1443.8	1339.6	1253.3	1193.7	1184.8	1187.7	1187.7
40°	1402.2	1369.4	1303.9	1217.6	1140.2	1095.5	1092.5	1098.4	1101.5
42.5°	1259.2	1232.4	1172.9	1098.4	1033.0	997.2	1000.3	1012.2	1021.0
45°	1131.2	1107.4	1053.8	988.4	931.8	905.0	913.9	928.8	937.8
47.5°	1015.1	994.3	943.7	884.1	836.5	818.6	830.5	848.5	860.3
50°	907.9	890.1	842.5	779.9	741.2	729.3	744.2	762.1	768.0
52.5°	812.7	794.8	744.2	690.6	660.9	654.9	669.8	684.6	693.6
55°	714.5	699.6	657.9	610.3	586.5	583.4	598.4	610.3	616.2
57.5°	634.0	619.2	580.5	538.8	518.0	515.0	529.9	538.8	541.8
60°	556.6	541.8	506.0	467.4	452.5	452.5	461.4	467.4	470.3
62.5°	485.3	470.3	437.6	404.8	392.9	392.9	392.9	396.0	404.8
65°	416.7	404.8	375.1	345.4	336.4	330.4	330.4	330.4	336.4
67.5°	354.2	342.3	318.5	291.7	282.9	273.9	270.9	276.8	276.8
70°	294.7	285.8	262.0	241.1	232.1	223.3	220.2	232.1	232.1
72.5°	241.1	232.1	217.3	196.5	187.6	184.6	190.5	196.5	199.5
75°	190.5	181.5	169.6	157.8	148.9	151.8	160.8	163.7	166.7
77.5°	142.9	139.9	128.0	119.0	119.0	122.1	128.0	134.0	136.9
80°	101.2	98.3	92.2	86.3	89.3	95.3	98.3	104.2	101.2
82.5°	62.5	62.5	59.6	59.6	62.5	68.4	71.5	74.4	77.4
85°	32.8	32.8	32.8	35.7	38.7	41.6	44.7	47.7	47.7
87.5°	9.0	11.9	11.9	14.9	17.8	17.8	20.9	20.9	20.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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— 0°-180°    - - 45°-225°    - - - - 90°-270°







(END OF REPORT)